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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/051,735

01/16/2002

David E. Hyre

8641

30621

7590

05/05/2004

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EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,735

Applicant(s)

HYRE ET AL.

Examiner

Phylesha L Dabney

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the application filed on 16 January 2002 in which claims 1-33 are pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the *specific speaker structure of claim 3* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

On page 11, line 5, the specification recites "triple gap specie". This wording doesn't seem to be applicable to any element.

On page 11, line 19, the specification recites "ovoid". This word should probably be changed to --avoid--.

Appropriate correction is required.

Art Unit: 2643

Claim Objections

3. Claim 21 is objected to because of the following informalities: the word "diamaterial" should probably read as "diamagnetic material". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 3-16 and 28-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to teach any of the elements presented in claim 3.

Claims 20-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to teach paramagnetic or diamagnetic material in at least one region of the lower flux.

include:
Cl. 32-33

Art Unit: 2643

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5-9 and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 5-9, it is not understood and/or clearly presented in the specification or claims how the stated non-uniform magnetic field/intensity is produced.

With respect to claims 11-14, it is not understood and/or clearly presented in the specification or claims how the specific magnitudes of the inter-gap magnetic field intensities are being produced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 18, 24-26, and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Zwicky U.S. Patent No. 4,980,921).

Regarding claim 1, Zwicky teaches an electromechanical transducer (figures 1-4) comprising: a magnetic assembly (11-27, and 29-30) producing a magnetic field, that field having two or more displaced regions of greater intensity (19-26; col. 5 line 66 through col. 6 line 11), those regions having magnetic flux in substantially similar directions (col. 5 lines 31-

Art Unit: 2643

66), and separated by and surrounded by regions of lower-intensity magnetic field (12 and 29-30); and an electrically-conductive and mobile member (15-17) disposed in the magnetic field capable of moving through the magnetic field.

Regarding claim 2, Zwicky teaches an electromechanical transducer (figures 1-4) comprising: a magnetic assembly (11-27, and 29-30) producing a magnetic field, that field having two or more linearly-displaced regions of greater intensity (19-26; col 5 line 66 through col. 6 line 11), those regions having magnetic flux in substantially similar directions (col. 5 lines 31-66), and separated by and surrounded by regions of lower-intensity magnetic field (12 and 29-30); and an electrically-conductive and mobile member (15-17) disposed in the magnetic field capable of moving linearly through the magnetic field.

Regarding claim 18, Zwicky teaches wherein at least one region of high magnetic intensity is of magnitude and/or size substantially different from that in other regions (figures 1-4).

Regarding claim 23, Zwicky teaches an apparatus with ferromagnetic material 12-14) in at least one region of lower flux.

Regarding claims 24-26, Zwicky teaches an apparatus with electrically conductive material in at least one region of lower flux, with passively-energized, electrically-conductive non-magnetic material in the region of lower flux, or with externally-energized, electrically-conductive non-magnetic material in the region of lower flux (i.e. coil of wire).

Regarding claim 30, Zwicky teaches an apparatus wherein the pole and/or top plate are shaped to produce multiple regions of varying magnetic intensity of different dimensions (col. 5 line 66 through col. 6 line 11).

Art Unit: 2643

Regarding claim 31, Zwicky teaches an apparatus whose magnetic assembly is created by a central pole (12), back plate (12; 30, lower section of 12), and magnetic material (14) with a field arranged so as to eliminating the need for a top plate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-8, 17, 19-20, and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwicky.

Regarding claim 3, Zwicky teaches a magnetic system for use with an electro-acoustic transducer (col. 2 lines 65-68; dynamic loudspeaker). He also teaches that an electro-acoustic transducer has a supporting frame (col. 1, line 36; loudspeaker box); an acoustic-radiating diaphragm (col. 1, lines 23-26) attached to and moving with the electrically conductive and mobile member. Zwicky does not teach an air seal at the edge of the diaphragm and a suspending element to provide restoring force to the moving parts. However the examiner takes official notice that it is known for an electro-acoustic transducer to have a suspending element, i.e. edge-roll, suspension, or damper, to attach and seal the diaphragm to the supporting frame for protecting the diaphragm from being damage during excursion forces. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a

Art Unit: 2643

suspending element in the electro-acoustic transducer to protect the diaphragm from damage as well as, provide a restoring force.

Regarding claim 4, Zwicky teaches the magnetic assembly having a central pole (12), back plate (near 30), magnetic material (14), and top plate (13).

Regarding claim 5, Zwicky teaches the pole and/or top plate are each made of multiple pieces of ferromagnetic material shaped to create the stated non-uniform magnetic field (col. 5 lines 3-10).

Regarding claim 6, Zwicky teaches the pole and/or top plate are each made of multiple pieces of ferromagnetic material shaped to create the stated non-uniform magnetic field (col. 5 lines 3-10).

Regarding claim 7, Zwicky teaches the top plate is shaped to produce the regions of varying magnetic intensity (col. 5 lines 3-10).

Regarding claim 8, Zwicky teaches the pole (12) is shaped to produce the regions of varying magnetic intensity.

Regarding claim 17, Zwicky teaches an electro-acoustic transducer wherein at least one region of high magnetic intensity is of magnitude and/or size substantially similar to that in other regions (col. 5 line 66 through col. 6 line 11).

Regarding claim 19, Zwicky inherently teaches the apparatus with more than one field (fig. 2).

Regarding claim 20, Zwicky teaches the apparatus with nonmagnetic material (25) in at least one region of lower flux.

Regarding claim 32, see rejection of claim 3.

Regarding claim 33, Zwicky teaches an apparatus as an electro-acoustic transducer, with an acoustic-radiating diaphragm attached to and moving with the electrically conductive and mobile member (col. 1 lines 25-58).

Allowable Subject Matter

8. Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PLD

April 16, 2004


CURTIS KUNTZ
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